REMARKS

Claims 1- 26 are pending in the instant patent application. Claims 1-20 and 26 are rejected. Claims 1, 7-20, and 26 have been amended. Claims 21-25 remain cancelled. No new mater has been added in the claims.

CLAIM REJECTIONS

35 U.S.C. 102 Rejections

Claims 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Brandin et al., hereinafter referred to as Brandin. (US Patent 6493813 B1)

The Examiner is respectfully directed to independent Claim 7, which recites an apparatus comprising: (emphasis added)

a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys correspond to a plurality of original keys, and wherein storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;

a hash function block coupled to a memory that applies any polynomial to a full key and generates a hash value which is used to point to one of the plurality of partial keys stored in the memory, wherein the partial keys include saved bits comprising a consecutive, sequential string of bits derived from the original key.

Claims 8, 9, and 10 depend from currently amended independent Claim 7 and recite further limitations.

Applicant respectfully asserts that Brandin does not anticipate currently amended independent Claim 7.

According to the Federal Circuit, "anticipation requires the disclosure in a single prior art reference of each claim under consideration" (W.L. Gore & Assocs. v. Garlock *Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983); see also MPEP 2131).

Brandin is distinct from the present invention. In particular, Brandin does not teach "a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys correspond to a plurality of original keys, and wherein storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;" as recited in currently amended independent Claim 7.

In fact, Brandin's focus is very different from the present invention. Brandin is focused on a method of forming a hashing code that reduces or eliminates collisions. Specifically, Brandin is directed towards a method of forming a hashing code that will not collide with another hashing code when the maximum key length is known.

Brandin teaches that a perfect 64 bit transform is able to provide a unique transform for every possible 64 bit key. However, a perfect 64 bit transform, if given keys that are 128 bits long, may transform distinct 128 bit keys into identical 64 bit transforms, thus causing a collision. Because of this, Brandin teaches a method of solving this problem by performing an extended transform. In short, Brandin teaches that in order to prevent collision, the first part and the second part of a 128 bit key has to undergo a first and second transform respectively. (column 7, lines 14-39)

However, it is clear that in Brandin *ALL* 128 bits of a 128 bit key would be utilized. Again, this is shown in Figure 13A of Brandin. Specifically, a 128 bit key is transformed into *two* 64 bit transforms. As two 64 bit transforms consume an equal amount of memory resource as one 128 bit key, this does not result in any

improved memory efficiency.

Hence, Brandin directly contradicts "…storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;" as recited in currently amended independent Claim 7. In Brandin, the two 64 bit transforms correspond to one 128 bit key. The storage of two 64 bit transforms *does not* require less memory than the storage of one 128 bit key.

As such, Applicants respectfully assert that Brandin does not anticipate currently amended independent Claim 7. Consequently, Claim 7 is in condition for allowance. Also, Claims 8, 9, and 10 depend from Claim 7 and are allowable from being dependent on an allowable base claim.

35 U.S.C. 103 Rejections

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Rajski et al (2002/0016806 A1), hereinafter referred to as Rajski.

Claims 1-4 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Biran (US Patent 6345347 B1), hereinafter referred to as Biran.

Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Biran (US Patent 6345347 B1), hereinafter referred to as Biran, and further in view of Ji (US PG Publication 2005/0086363 A1).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Bryg et al (US Patent 6430670 B1), hereinafter referred to as Bryg.

Claims 5, 19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Biran (US Patent 6345347 B1), hereinafter referred to as Biran, and further in view of Bryg.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandin, and further in view of Ji.

The Examiner is respectfully directed to independent Claim 7, which recites an apparatus comprising: (emphasis added)

a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys correspond to a plurality of original keys, and wherein storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;

a hash function block coupled to a memory that applies any polynomial to a full key and generates a hash value which is used to point to one of the plurality of partial keys stored in the memory, wherein the partial keys include saved bits comprising a consecutive, sequential string of bits derived from the original key.

Independent Claims 1, 15, and 26 recite limitations similar to that of currently amended independent Claim 7.

Applicant respectfully asserts that Brandin does not teach, suggest, or render obvious currently amended independent Claim 7.

Brandin is distinct from the present invention. In particular, Brandin does not teach, suggest, or render obvious "a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys correspond to a plurality of original keys, and wherein storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;" as recited in currently amended independent Claim 7.

In fact, Brandin's focus is very different from the present invention. Brandin is focused on a method of forming a hashing code that reduces or eliminates collisions. Specifically, Brandin is directed towards a method of forming a hashing code that will not collide with another hashing code when the maximum key length is known.

Brandin teaches that a perfect 64 bit transform is able to provide a unique transform for every possible 64 bit key. However, a perfect 64 bit transform, if given keys that are 128 bits long, may transform distinct 128 bit keys into identical transforms, thus causing a collision. Because of this, Brandin teaches a method of solving this problem by performing an extended transform. In short, Brandin teaches that in order to prevent collision, the first part and the second part of a 128 bit key has to undergo a first and second transform respectively. (column 7, lines 14-39)

However, it is clear that in Brandin *ALL* 128 bits of a 128 bit key would be utilized. Again, this is shown in Figure 13A of Brandin. Specifically, a 128 bit key is transformed into two 64 bit transforms. As two 64 bit transforms consume an equal amount of memory resource as one 128 bit key, this does not result in any improved memory efficiency.

Hence, Brandin directly contradicts "...storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;" as recited in currently amended independent Claim 7. In Brandin, the two 64 bit transforms correspond to one 128 bit key. The storage of two 64 bit transforms *does not* require less memory than the storage of one 128 bit key.

The Rajski reference, Biran reference, Ji reference, Bryg reference all fail to cure the deficiencies of the Brandin reference. In particular, the Rajski reference, Biran reference, Ji reference, Bryg reference all fail to teach, suggest, or render

obvious "a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys correspond to a plurality of original keys, and wherein storage of said plurality of partial keys requires less memory than storage of said plurality of original keys;" as recited in currently amended independent Claim 7.

Therefore, Applicants respectfully submit that neither Brandin, Bryg, Ji, Biran, and/or Rajski, either alone or in combination, anticipates or renders obvious the present claimed invention as recited in Claims 1, 7, 15, and 26, and as such, Claims 1, 7, 15, and 26 overcome the rejection under 35 U.S.C. 103 and are in condition for allowance. Accordingly, Applicants also respectfully submit that the combination of Brandin, Bryg, Ji, Biran, and/or Rajski does not anticipate or render obvious the present claimed invention as is recited in Claims 2-6 dependent on Claim 1, Claims 11-14 dependent on Claim 7, and Claims 16 -20 dependent on Claim 15, and as such Claims 2-6, 11- 14, and 16 - 20 overcome the Examiner's basis for rejection under 35 U.S.C.103 through dependence on allowable base claims, and are therefore in condition for allowance.
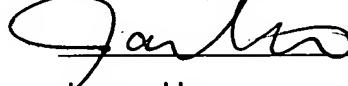
SUMMARY

In view of the foregoing remarks, the Applicant respectfully submits that the pending claims in the instant patent application are in condition for allowance. The Applicant respectfully requests reconsideration of the Application and allowance of the pending claims.

If the Examiner determines the prompt allowance of these claims could be facilitated by a telephone conference, the Examiner is invited to contact the Applicants' designated representative at the below listed phone number.

Respectfully submitted,

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